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EXAMINER

WILSON, MICHAEL H

ART UNIT

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Attachment to Advisory Action

1. The response After-Final dated 19 September 2011 **will** be entered however the amendment fails to place the application in condition for allowance.
2. Applicant has provided evidence in this file showing that the invention was owned by, or subject to an obligation of assignment to, the same entity as Yamazaki et al. (WO 2005/048222 A1) at the time this invention was made, or was subject to a joint research agreement at the time this invention was made. Therefore, Yamazaki et al. (WO 2005/048222 A1) is disqualified as prior art under 35 U.S.C. 103(c).
3. Applicants overcame the rejection of claims 13-15, 17, 18, 20, 25 and 26 under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (WO 2005/048222 A1) in view of Shiratsuchi et al. (US 6,084,176) by disqualifying Yamazaki et al. (WO 2005/048222 A1) as prior art under 35 U.S.C. 103(c).
4. Applicants overcame the rejection of claim 27 under 35 U.S.C. 103(a) as being obvious over Yamazaki et al. (WO 2005/048222 A1) in view of Shiratsuchi et al. (US 6,084,176) and further in view of Sato et al. (US 2003/0218418 A9) by disqualifying Yamazaki et al. (WO 2005/048222 A1) as prior art under 35 U.S.C. 103(c).
5. Applicants overcame the rejection of claims 16, 19, 25, and 26 under 35 U.S.C. 103(a) as being obvious over Yamazaki et al. (WO 2005/048222 A1) in view of Shiratsuchi et al. (US 6,084,176) and Shirota et al. (US 5,487,953) by disqualifying Yamazaki et al. (WO 2005/048222 A1) as prior art under 35 U.S.C. 103(c).

6. Applicants overcame the rejection of claim 27 under 35 U.S.C. 103(a) as being obvious over Yamazaki et al. (WO 2005/048222 A1) in view of Shiratsuchi et al. (US 6,084,176) and Shirota et al. (US 5,487,953) and further in view of Sato et al. (US 2003/0218418 A9) by disqualifying Yamazaki et al. (WO 2005/048222 A1) as prior art under 35 U.S.C. 103(c).

7. Applicant's arguments regarding filed 19 September 2011 have been fully considered but they are not persuasive.

Applicants argue that Shiratsuchi et al. does not describe that the asserted carbazole compounds are known equivalents to arylamine compounds of Ikeda, much less that there would have been a reasonable expectation of success in combining such carbazole compounds in a mixed layer with molybdenum oxide, as claimed by Ikeda. Applicants assert that neither Ikeda nor Shiratsuchi et al. provides any evidence that the combination of Shiratsuchi et al.'s H-23, H-24 or H-38 compounds in a mixed layer comprising molybdenum oxide either was a simple substitution or would have led to a predictable result and argue that Shiratsuchi et al. appears to be totally silent with respect to molybdenum oxide or application of the above-referenced compounds in combination with molybdenum oxide.

However merely because Shiratsuchi et al. does not disclose all the limitations of the present claims (i.e. anticipate) does not negate a finding of obviousness. Shiratsuchi et al. clearly teach arylamine and carbazole compounds to be equivalent and interchangeable each having similar hole transporting properties. Ikeda et al. teach

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the arylamine compounds for a mixed compound layer with molybdenum oxide.

Therefore one of ordinary skill in the art would readily expect substituting the arylamine compounds with the carbazole compounds such as H-23, H-24, or H-38 taught by Shiratsuchi et al. would result in a similar layer suitable for the same purpose.

Therefore the rejection of claims 13-15, 17, 18, 20, and 25-27 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10, 15 and 16 of U.S. Patent 7,732,808 B2 in view of Shiratsuchi et al. (US 6,084,176) is maintained as set forth in the previous Office Action.

Applicants also argue that while the Official Action alleges that it would have been obvious to combine Shiota's alleged carbazole with molybdenum oxide in a mixed layer claimed by Ikeda in order to obtain the advantage of increased heat resistance, it is respectfully submitted that Shiota does not teach that such an advantage can be obtained in a mixed layer of Ikeda or that the combination of the disclosed carbazole with molybdenum oxide would produce any advantage when compared with a mixed layer comprising molybdenum oxide and an aromatic amine.

However Shiota et al. teach the carbazole compound TTPB for a hole transporting/injecting layer adjacent to the anode. The reference specifically teaches the compounds to give superior to a hole transporting/injecting layer of TPD (columns 11 and 12). Ikeda et al. disclose TPD for the mixed layer. Therefore it would be obvious for one of ordinary skill in the art to substitute TPD with TTPB in the mixed layer of Ikeda et al. given the teaching of Shiota et al. One of ordinary skill in the art could reasonably expect such a combination to be suitable because Shiota et al. teach

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TPTPB to form a suitable hole transporting/injecting layer adjacent to the anode. One of ordinary skill in the art would be motivated by the desire to improve the heat resistance of the layer because Shirota et al. teach TPTPB forms a layer with higher heat resistance.

Therefore the rejection of claims 13, 16, 19, 20, and 25-27 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10, 15, and 16 of U.S. Patent 7,732,808 B2 in view of Shirota et al. (US 5,487,953) is maintained as set forth in the previous Office Action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL H. WILSON whose telephone number is (571)270-3882. The examiner can normally be reached on Monday - Thursday 7:30-5:00 (EST), Friday 7:30-4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer Chriss can be reached on (571) 272-7783. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A Chriss/
Supervisory Patent Examiner, Art Unit 1786

MHW